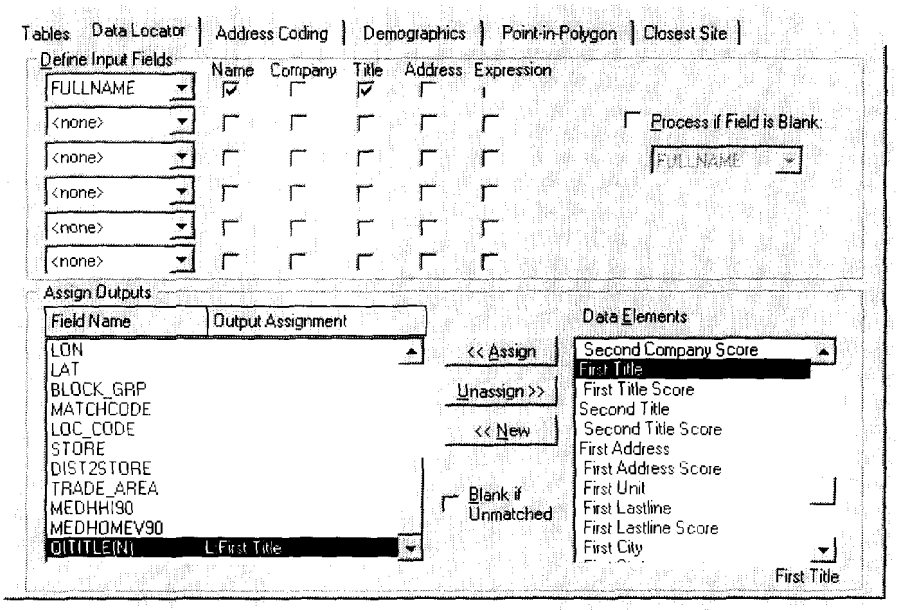
Specifying Data Locator Input Fields

Once you've specified an input file in the *Tables* tab, you can select the input fields you want to analyze with the Data Locator module. Click the arrows next to the list boxes to see available input fields, then click on the ones you wish to select. You can analyze up to six fields.

Next, choose the type of information you wish to extract from each field. The five general categories are Name, Address, Company, Title, and Expression. (*Expression* is a special user-defined category. For more information, see "Customizing the Data Locator Module" on page 109.) Select or clear the appropriate check boxes by clicking them. You may select as many categories as you like.



Process if Field is Blank

The **Process if Field is Blank** option lets you process only those records with missing data in a particular field, which you specify using the drop-down list. This is useful for "cleaning up" a previously processed database.

Assigning Data Locator Output Fields

The *Assign Outputs* section of the Data Locator dialog is where you associate Data Locator elements with output field names. By default, the list of Field Names is the same as the input fields in the *Define Input Fields* section of the dialog. You can assign Data Locator elements to existing field names, or create new fields to receive the data.

Assigning Field Names

To associate a data element with an output field:

1. Select a field name by clicking it.
2. Select the desired data element by clicking it.
3. Click the **<<Assign** button.

The selected data element will appear in the Output Assignment column next to the field name to which it is assigned. An "L:" appears before the data element, signifying that the data is being assigned by the Data Locator module.

Creating New Fields

To create a new field

1. Select the desired data element by clicking it.
2. Click the **<<New** button. A New Field dialog will appear.
3. Specify the name, type, width, and (if numeric) decimal places desired, or click **OK** to accept the default values.

The selected data element will appear in the Output Assignment column next to the field name to which it is assigned. An "L:" appears before the data element, signifying that the data is being assigned by the Data Locator module.

Unassign

If the currently selected field is an input field, clicking the **Unassign>>** button will remove its output assignment. If the currently selected field is a new field, clicking the **Unassign>>** button will delete it.

Blank if Unmatched

If you check the **Blank if Unmatched** box, *all* output fields defined within the Data Locator module will be cleared if the record cannot be matched. If you want to retain unmatched input addresses, either assign Data Locator elements to new fields rather than input fields, or be sure the **Blank if Unmatched** box is not checked.

Tips on Using Data Locator

Decide Which Information You Want to Extract

Before you begin setting up a Data Locator task, decide which information you want to extract from your data. Data Locator can identify more than 50 different data elements. (See "Available Data Locator Elements" on page 61 for the complete list.) If you are especially interested in address components, you should use the Address Coding Module to standardize your list before

processing it with the Data Locator. Data Locator will match standardized addresses but may give inaccurate results for poorly-formed addresses.

Define a Task to Extract the Information

Examine your input file. If the input file is large, you may want to create a small test file containing a subset of the data. List your fields, describing what you think each field contains. Your list might look something like this:

Field1	names or companies
Field2	names, companies, or titles
Field3	companies, titles or addresses
Field4	titles or addresses
Field5	addresses

Using your list as a guide, set up input fields, then assign the desired outputs in the outputs section. (You may wish to output scores to aid in evaluating the results.) Then process your data.

Evaluate Results and Redefine the Task

If you are processing interactively, you can examine results as you process. If you processed in batch mode, open your output file to look at the results.

Ambiguous or incorrect results can often avoided by changing the components being requested. For example, "Smith Barney" will be identified as a Company if "Company" is the only requested component for a field. But if both "Name" and "Company" are requested, "Smith Barney" will score higher as a Name than as a Company. "Smith Barney Inc." will always score highest as a Company, regardless of the components requested.

Similarly, requesting both Title and Company components can produce ambiguous results. "Quality Assurance Specialist" will score highest as a Title, but "Quality Assurance Specialists" will score highest as a Company. Each will have a fairly high score for both Company and Title.

You may find it useful to request a component even if you do not want it as an output field. For example, you might have a field which could contain names, company names or addresses. You want to extract only company names from the field. If the field contains the address "11 West 42nd Street" and you've asked Data Locator to find Name, Company, and Address components, "Address" will score higher than "Name" and "Company". However, if you've requested only Company components, the field will score highest as a Company. Over-specifying components avoids the problem of mistaken identity.

Using the Custom Dictionary

If you find that one or more words are often incorrectly assigned, you may want to create a custom dictionary file. Once you specify the name and location of this file, Data Locator adds your custom dictionary entries to its own list of terms and parses input accordingly. For example, the word

"Quality" appears frequently in both Company names and Titles. If you add "Quality" to the custom dictionary as a Company word, "Quality Consultants" is likely to be identified as a company. If Quality is added as a Title word, "Quality Consultants" is likely to identified as a title.

For more information, see "Custom Dictionaries In Data Locator" on page 111.

Using Multiple Passes and Process if Field is Blank

You may find that several passes over a database are required to get the answers you desire. For example, you might find when reviewing your initial results that many of the blank Title fields contain the word "Mgmnt" in the corresponding input field. You could use the custom dictionary to define "Mgmnt" as a Title word, then process the original output file using the custom dictionary. You'd set **Process if Field is Blank** to "Title" and assign only the title field as output. Data Locator would update the Title field with additional results while retaining the initial results for other fields.

Available Data Locator Elements

Data Locator Element	Explanation
First Full Name	Full name of the first person identified.
First Full Name Score	Accuracy estimate for identification of the first full name.
First Name Special (c/o)	Extra information associated with first full name. This can include the words ATTN, C/O, DEAR, ESTATE, FAMILY, HONORABLE, HUSBAND, SPOUSE, THE, TRUST, WIFE.
First Name Prefix	Mr., Ms., Mrs.
First First Name	First name of first person.
First Middle Name 1	First middle name of first person.
First Middle Name 2	Second middle name of first person.
First Last Name	Last name of first person.
First Name Suffix (Jr.)	Name suffix of first person.
First Formal Greeting	Formal greeting for first person.
First Informal Greeting	Informal greeting for first person.
First Casual Greeting	Casual greeting for first person.
First All Aliases	List of all aliases and diminutives for first name of first person.
First First Name Gender	Gender of first person, based on first name.
First Middle Name Gender	Gender of first person, based on middle name.
First First Name Ethnicity	Ethnicity of first person, based on first name.
First Next Best First Name Ethnicity	Ethnicity of first person, based on first name (next best estimate).

Data Locator Element	Explanation
First Last Name Ethnicity	Ethnicity of first person, based on last name.
First Next Best Last Name Ethnicity	Ethnicity of first person, based on last name (next best estimate).
First Person Gender	Gender of first person, all factors.
Second Full Name	Full name of the second person identified
Second Full Name Score	Accuracy estimate for identification of the second full name.
Second Name Special (c/o)	Extra information associated with second full name. This can include the words ATTN, C/O, DEAR, ESTATE, FAMILY, HONORABLE, HUSBAND, SPOUSE, THE, TRUST, WIFE.
Second Name Prefix	Mr., Ms, Mrs.
Second First Name	First name of second person.
Second Middle Name 1	First middle name of second person.
Second Middle Name 2	Second middle name of second person.
Second Last Name	Last name of second person.
Second Name Suffix (Jr.)	Name suffix of second person.
Second Formal Greeting	Formal greeting for second person.
Second Informal Greeting	Informal greeting for second person.
Second Casual Greeting	Casual greeting for second person.
Second All Aliases	List of all aliases and diminutives for first name of second person.
Second First Name Gender	Gender of second person, based on first name.
Second Middle Name Gender	Gender of second person, based on middle name.
Second First Name Ethnicity	Ethnicity of second person, based on first name.
Second Next Best First Name Ethnicity	Ethnicity of second person, based on first name (next best estimate).
Second Last Name Ethnicity	Ethnicity of second person, based on last name.
Second Next Best Last Name Ethnicity	Ethnicity of second person, based on last name (next best estimate).
Second Person Gender	Gender of second person, all factors.
First Company Name	First company name identified.
First Company Score	Accuracy estimate for identification of the first company name.
Second Company Name	Second company name identified.
Second Company Score	Accuracy estimate for identification of the second company name.

Data Locator Element	Explanation
First Title	Title of the first person identified.
First Title Score	Accuracy estimate for identification of the first title.
Second Title	Title of the second person identified.
Second Title Score	Accuracy estimate for identification of the second title.
First Address	First address identified.
First Address Score	Accuracy estimate for identification of the first address.
First Unit	First unit identified.
First Lastline	First lastline identified.
First Lastline Score	Accuracy estimate for identification of the first lastline.
First City	First city identified.
First State	First state identified.
First ZIP	First ZIP identified.
Second Unit	Second unit identified.
Second Address	Second address identified.
Second Lastline	Second lastline identified.
Second Lastline Score	Accuracy estimate for identification of the second lastline .
Second City	Second city identified.
Second State	Second state identified.
Second ZIP	Second ZIP identified.
Expression	Regular expression to be matched
Extra1	"Leftovers"-unmatched strings.
Extra2	"Leftovers"-unmatched strings.

Chapter 7

The Address Coding Module

About the Address Coding Module

The Centrus Address Coding module is a complete address standardization and geocoding solution that you can use to enhance any database containing address information. The Address Coding module:

- Standardizes, corrects and appends information about your addresses.
- Standardizes addresses to USPS standards. This reduces mailing costs and increases delivery speed by supplying correct USPS information. Centrus Desktop also identifies poorly formed or undeliverable addresses.
- Produces a USPS CASS report. This report allows even greater savings on postage for your mailings.
- Using address geocoding, assigns Latitude, Longitude and Census ID information to the Block level.
- Using ZIP+4 centroid geocoding, assigns a geocode when address geocoding is unavailable. ZIP+4 centroids return Census ID information to the Block Group level.

For information on U.S. Postal Service CASS program or bulk mail discounts, see "CASS Report and Bulk Rate Information" on page 131.

Area Coverage

The Address Coding module is licensed by State, Region or Nationally. The license file that is shipped with Centrus Desktop informs the system which areas are available for coding. If there are addresses outside of the coverage area in a file being processed, these addresses will be flagged with a match code indicating an "out of coverage" address. Your licensed coverage area can be expanded by contacting your Qualitative Marketing sales representative.

How Address Processing Works

During the processing of an address file, each address is standardized to USPS standards. If you want to "clean" your addresses and help ensure

USPS deliverability, you may choose to have the standardized output returned.

During standardization, the address is also geocoded to either the address or ZIP+4 level. To perform address standardization and geocoding, you can either use fields containing address and last line information (city, state and ZIP), or simply give Centrus a list of fields. Centrus will then find and correct the address information in those fields.

The Address Coding module compares the street addresses from the address file to the records in the U.S. Postal Service ZIP+4 Directory and the enhanced street network files. If the address is located in the USPS files, the address is standardized and a ZIP+4 (and all other USPS information) can be returned. If the address is also located within the street network files, Centrus can determine a very accurate latitude and longitude for the location. If the address was not found in the enhanced street network files, location and census information is then taken from the ZIP+4, ZIP+2 or ZIP Code centroid.

The overall standardization and geocoding rates are determined by the quality of the addresses in the file. Centrus can correct most minor misspellings as well as missing or incorrect directionals, street types, and ZIP Codes. However, if an address has an incorrect street number, or if the address contained a number of errors throughout, Centrus may not be able to make a successful match.

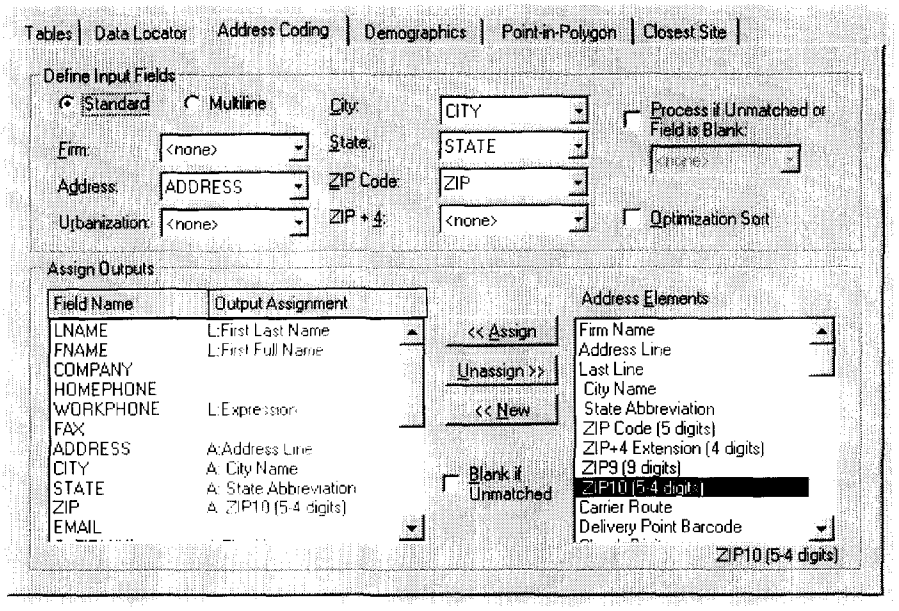
For best results, we recommend that addresses be entered into address files following the USPS guidelines outlined in "Publication 28, Postal Addressing Standards". This document is available free of charge from the USPS. For more information, contact the USPS National Customer Support Center in Memphis, TN at 1-800-238-3150.

Using the Address Coding Module

"Setting Options" on page 23 explains how to configure the Address Coding module to meet your requirements. "Specifying Files in Centrus Desktop" on page 53 explains how to select a file for processing. Once you've performed these steps, you can specify the input fields, assign outputs, then click the **Process** button to process the file or configure a different module.

Specifying Address Input Fields

Once you have selected a file to process, the input fields are filled in automatically, if possible, by looking at the input file's field names. If any input fields were not filled in, or were not filled with the correct field, click the drop-down arrows to select from address file fields. If you wish to remove a field, select the special field **<none>** at the top of the list box of field names.



Using Different Input Formats

In many files, the address information is contained in discrete fields that correspond to Firm, Address, City, State, ZIP and possibly ZIP+4.

Some files, however, do not have discrete fields for last line information (City, State and ZIP). In the Address Coding module, you can assign the field containing the Last Line information to the City / LL input field.

If the file to be processed has multiple address lines or contains addresses in different fields, the Address Coding module provides a **Multiline Input** option.

Multiline Input

If you check the **Multiline Input** box, the field identifiers for the input Fields change to *Line 1* through *Line 6*, and *Optimization Sort* checkbox disappears. When using this option, you may specify any six fields that Centrus should search through in order to find an address. Centrus can determine, for each record, which fields contain address information, and which fields do not. Fields containing no address information are ignored.

It is important to note that the fields should be specified in logical address order. Fields that could contain the street address information should be listed before fields that could contain last line information (city, state and ZIP).

For example, Centrus can handle the following address:

Suite A
2900 Center Green Court
Boulder
CO

but not:

Boulder, CO
2900 Center Green Court, Ste A

General Guidelines for Using Multiline Mode

- You can specify from two to six input fields. The Address Coding module cannot detect the address and last line information when all of the information is in one field. If you need this feature, use the Data Locator module to parse your data into discrete fields.
- Firm names should appear before the street address line.
- Suite or apartment numbers can be listed on the street address line, above the street address line, or below the street address line. However, they must appear **before** the last line information.
- Last line information must come after the street address information. You can specify different input fields for City, State and ZIP Code, but they should be listed in that order. The Address Coding module cannot detect a city name that is listed after a state.

Process if Unmatched or Field is Blank

The **Process if Field is Blank** option lets you process only those records with missing data in a particular field, which you specify using the drop-down list. This is useful for "cleaning up" a previously processed database.

This option is disabled when producing a CASS report—all records must be processed

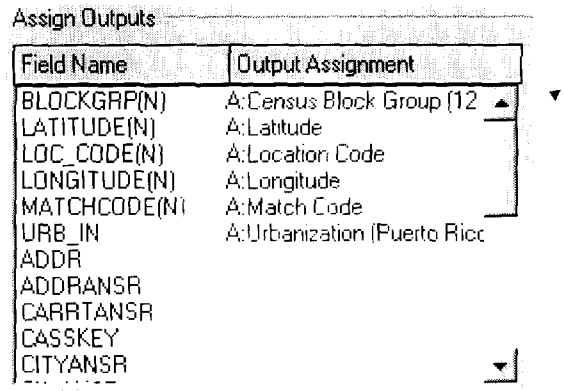
Optimization Sort

Checking the **Optimization Sort** box allows Centrus to sort input data into an order optimized to increase processing speed. This option is only available if a ZIP Code input field is present.

Assigning Address Output Fields

The *Assign Outputs* section of the Address Coding dialog is where you associate address data elements with output field names. By default, the list of Field Names is the same as the input fields in the *Define Input Fields* section of the dialog. You can assign address data elements to existing field names, or create new fields to receive the data.

Click *Field Name* to view outputs ordered alphabetically by field name.



Click *Output Assignment* to view outputs ordered alphabetically by output assignment.

Assigning Address Elements

To associate an address data element with an output field:

1. Select a field name by clicking it.
2. Select the desired address data element by clicking it.
3. Click the **<<Assign** button.

The selected address element will appear in the Output Assignment column next to the field name to which it is assigned. An "A:" appears before the address element, signifying that the data is being assigned by the Address Coding module.

Creating New Fields

To create a new field:

1. Select the desired address data element by clicking it.
2. Click the **<<New** button. A New Field dialog will appear.
3. Specify the name, type, width, and (if numeric) decimal places desired, or click **OK** to accept the default values.

The selected address element will appear in the Output Assignment column next to the field name to which it is assigned. An "(N)" appears after the field name, signifying that the field is new. An "A:" appears before the address element, signifying that the data is being assigned by the Address Coding module.

Unassign

If the currently selected field is an input field, clicking the **Unassign>>** button will remove its output assignment. If the currently selected field is a new field, clicking the **Unassign>>** button will delete it.

Standardization Defaults

Centrus can automatically assign the most commonly used address standardization data elements to their corresponding field names, or create new fields for these data elements. From the main Centrus menu, select **Edit**,

then **Standardization Defaults**. Select **Existing Fields** to have Centrus try to assign the standardization defaults to your existing fields. Select **New Fields** to have Centrus create new fields for any standardization defaults you have not yet assigned. The standardization default data elements are:

Firm Name
Address Line
Last Line
Delivery Point Barcode
Check Digit
Carrier Route
Urbanization (Puerto Rico)
Match Code

Geocode Defaults

Centrus can automatically assign the most commonly used geocode data elements to their corresponding field names, or create new fields for these data elements. From the main Centrus menu, select **Edit**, then **Geocode Defaults**. Select **Existing Fields** to have Centrus try to assign the standardization defaults to your existing fields. Select **New Fields** to have Centrus create new fields for any geocode defaults you have not yet assigned. The geocode default data elements are:

Latitude
Longitude
Match Code
Location Code
Census Block Group (12 Digits)

Blank if Unmatched

If you check the **Blank if Unmatched** box, *all* output fields defined within the Address Coding module will be cleared if the record cannot be matched. If you want to retain unmatched input addresses, either assign Address Coding elements to new fields rather than input fields, or be sure the **Blank if Unmatched** box is not checked.

Available Address Data Elements

This section details all information about the address data available within the Address Coding module. Each address element is listed, and the maximum length of the information returned is given in parentheses. For example, `Firm Name(40)` indicates "Firm Name" data, with a maximum length of 40 characters. If the assigned field has less than 40 characters, the Firm information may be truncated.

Address Element (size)	Explanation
Firm Name (40)	Returns the firm name, as known by the US Postal Service, or as entered. Will be blank if the USPS does not know what firm is at that location.
Address Line (60)	Returns the full address line, e.g. "`1920 MAIN ST W APT 12`".
Last Line (60)	Returns the full last line, e.g. "`BOULDER CO 80301-1234`".
City Name (28)	Returns the valid USPS city name (e.g. BOULDER).
State Abbreviation (2)	Returns the 2-letter state abbreviation (e.g. CO).
ZIP Code (5)	Returns the ZIP Code (e.g. `80301`).*
ZIP+4 Extension (4)	Returns the +4 code (e.g. `1234`).
ZIP9 (9)	Returns the complete ZIP+4 (e.g. `803011234`).
ZIP10 (10)	Returns the complete ZIP+4 with hyphen (e.g. `80301-1234`).
Carrier Route (4)	Returns Carrier Route ID number.
Delivery Point Barcode (2)	This two digit field, when appended to the end of the 9-digit ZIP+4 Code, creates the Delivery Point Bar Code, which is then printed in the address section on the mailing piece to assist with automated sorting.
Check Digit (1)	Used with the DPBC to insure that the bar code printed on the mailing piece is correct.*
Urbanization (30)	Returns the urbanization code for the address, used for Puerto Rican addresses only.
Longitude (11)	Returns the longitude coordinate in decimal degrees to 6 decimal places, e.g. 123.234234. The number will be positive or negative depending on the setting of the

* The postal bar code printed on a mailing label represents the full nine-digit ZIP Code with the +4 extension, plus the two-digit Delivery Point Barcode, plus the one-digit Check Digit. The resulting 12-digit bar code can be printed using a Postnet bar code font.

Address Element (size)	Explanation
	Negate Longitudes check box. In the Options dialog.
Latitude (11)	Returns the latitude coordinate in decimal degrees to 6 decimal places, e.g. 123.234234.
Match Code (4)	Details which components of an address were modified if a match was successful. If a match was not successful, explains why the match could not be made. See "Match Codes" on page 101 for details.
Location Code (4)	Reports the locational accuracy of the match. See "Location Codes" on page 103 for details.
House Number (11)	Returns the house number in the address (e.g. 123).
Primary Pre-Directional (2)	Returns the pre-directional (e.g. NW).
Primary Street Name (40)	Returns the street name (e.g. MAIN).
Primary Street Suffix (4)	Returns the street suffix, or type (e.g. ST).
Primary Post-Directional (2)	Returns the post-directional (e.g. E).
Second Pre-Directional (2)	Returns the second pre-directional (e.g. N).
Second Street Name (40)	Returns the second street name (e.g. PEARL).
Second Street Suffix (4)	Returns the second street suffix or type (e.g. ST).
Second Post-Directional (2)	Returns the second post directional (e.g. W).
Unit Number (11)	Returns the unit or apartment number (e.g. 2A).
Unit Designator (4)	Returns the unit designator (e.g. STE).
Intersection Flag (1)	Returns the letter "T" if an intersection match was made, or the letter "F" if a normal address match was made.
Range Record Type (1)	For non-intersection matches, returns a letter denoting the USPS Range type, where "F" = Firm record, "S" = Street or Rural Route record, "H" = Highrise record, "P" = P.O. Box or General Delivery record.
Extra/Mail Stop (60)	Returns address information appearing after mail stop designator words: MSC, MS, MAILSTOP, MAIL STOP, ATTN, ATTENTION.
MSA Number (4)	Returns the Metropolitan Statistical Area FIPS number.

Address Element (size)	Explanation
MSA Name (30)	Returns the Metropolitan Statistical Area name.
CMSA Number (4)	Returns the Consolidated Metropolitan Statistical Area number.
CMSA Name (30)	Returns the Consolidated Metropolitan Statistical Area name.
County Name (30)	Returns the county name.
State Code (2)	The state code (e.g. 08).
County FIPS Code (5)	The full state and county code (e.g. 08013).
County FIPS Code Only (3)	The county code only (e.g. 013).
Census Tract (11)	The full census tract code (e.g. 08013012205).
Census Tract Only (6)	The census tract code only (e.g. 012205).
Census Block Group (12)	The full block group code (e.g. 080130122052).
Census Block Group Only (1)	The block group code only (e.g. 2).
Census Block (15)	The full block code (e.g. 080130122052O3A).
Census Block Only (3)	The full block code (e.g. 03A).
LOT (Line of Travel) Number (4)	The numeric LOT code used for presort.
LOT Direction Flag (1)	LOT direction, "A" = Ascending, "D" = Descending.
LACS Status (1)	Locatable Address Conversion Service Status Indicator; "L" = old (usually rural route) address which has been converted for the LACS system, blank = not applicable.
ZIP Classification (1)	Describe type of area that a 5-digit ZIP Code serves. "M" = military ZIP Code, "P" = P.O. Boxes Only, "U" = unique ZIP Code (single organization), blank = standard ZIP Code.
ZIP Facility (1)	Returns the USPS City State Name Facility Code: A = Airport Mail Facility (AMF) B = Branch C = Community Post Office (CPO) D = Area Distribution Center (ADC) E = Sectional Center Facility (SCF)

Address Element (size)	Explanation
	F = Delivery Distribution Center (DDC) G = General Mail Facility (GMF) K = Bulk Mail Center (BMC) M = Money Order Unit N = Non-Postal community name P = Post Office S = Station U = Urbanization
City Delivery (1)	Indicates whether a Post Office has city-delivery carrier routes.
Carrier Route Sortation (1)	Indicates whether a discount is provided for letter-sized carrier route sorted mail in current ZIP Code.
Extra Line 1-6 (103)	Used to capture data contained in unassigned address lines.

Note: Latitude and Longitude must be used together, or not at all.
In an xBASE file, if the field for Latitude and Longitude are numeric and have 0 decimal places, Latitude and Longitude will be returned in millionths of degrees. ASCII files will always receive decimal degrees.

Chapter 8

The Centrus*COA* Coding Module

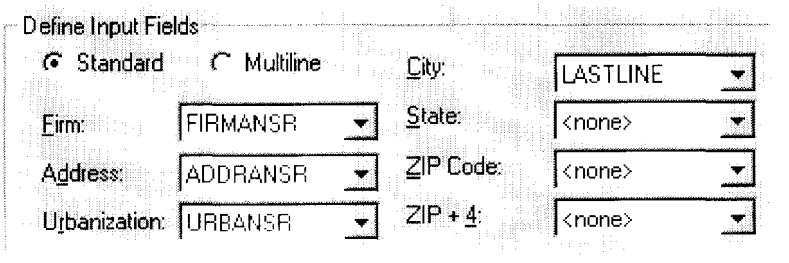
About the Centrus*COA* Module

Effective July 1, 1997, the rules governing discounts on automated First Class mail require you to update lists with current USPS change-of-address information prior to mailing. With the Centrus*COA* module and the licensed USPS *FASTforward* system, your company has access to the most up-to-date USPS change-of-address data without the turnaround delays and expenses associated with using an NCOA service bureau. You can quickly update addresses, reduce undeliverable mail, and maximize your postage discounts.

Centrus*COA* works with the Address Coding module and *FASTforward* in a two-stage process. Addresses are first cleansed and standardized to meet USPS CASS requirements, then sent to the *FASTforward* computer. *FASTforward* compares the standardized address and associated name to information from the USPS National Change of Address database. If the name and address match a record in the *FASTforward* database, the old address is replaced with the new one in the output file. You can also return the standardized original address, as well as the "move effective" date, the "move type" of the record (family, individual, or business) and other information about the forwarding order.

Configuring the Centrus*COA* Module

You specify input fields and assign Centrus*COA* outputs in the Address Coding module's tab. If you're not sure whether Centrus*COA* is active, look for the **Standard** and **Multiline** options on the Address Coding module's tab.

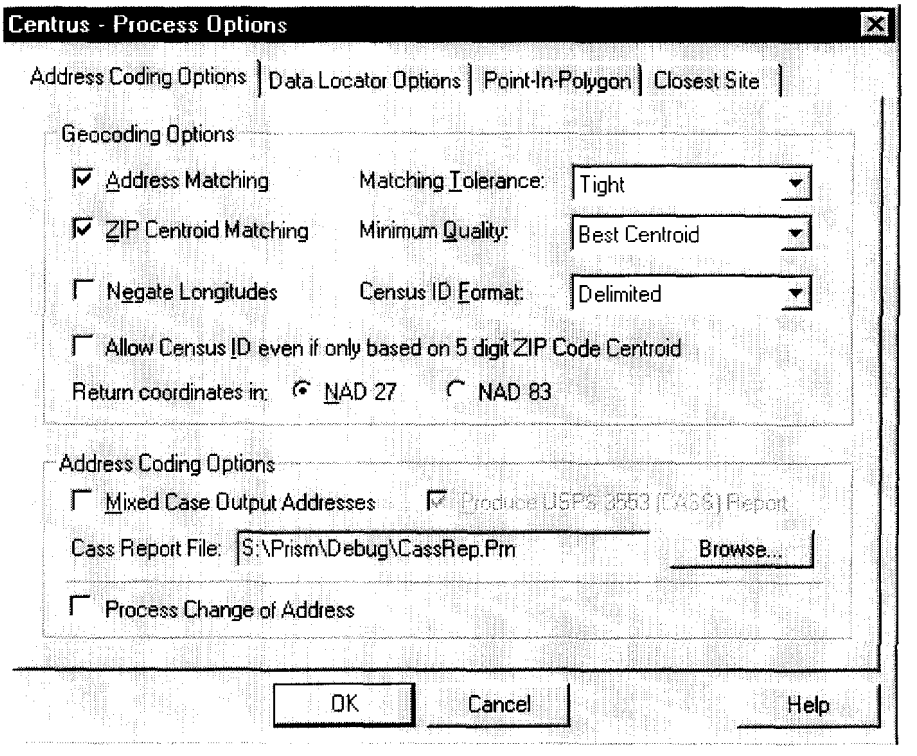


Multiline processing is not available in Centrus*COA*—if this option is visible, you know that Centrus*COA* is not active.

Starting Centrus*COA*

You can click the button to open the Options dialog.

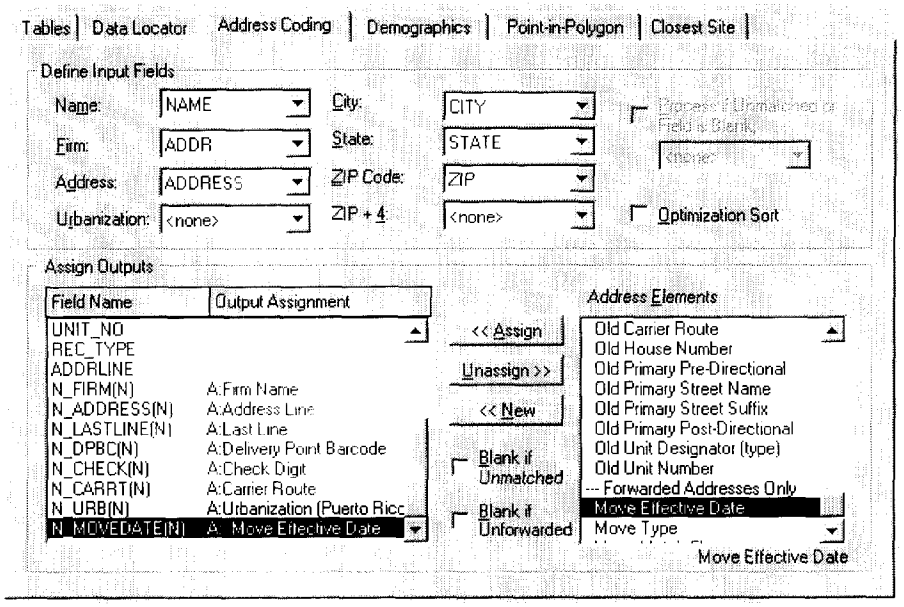
1. Check that the *FASTforward* computer is operating and connected to the Centrus host computer.
2. Select **Process|Options** to open the Options dialog, and click the *Address Coding Options* tab.
3. Be sure that the **Process Change of Address** box is checked.



Specifying Centrus*COA* Input Fields

Once you have selected a file to process, the input fields are filled in automatically, if possible, by looking at the input file's field names. If any input fields were not filled in, or were not filled with the correct field, click the drop-down arrows to select from address file fields. If you wish to remove a field, select the special field **<none>** at the top of the list box of field names.

Be sure that you've specified **Name** or **Firm** in the appropriate input box—*FASTforward* requires both name and address in order to match records.



Note that multiline input is not available in Centrus*COA*. If the file to be processed has multiple address lines or contains addresses in different fields, use the Data Locator module (if licensed) to extract discrete name and address fields.

Optimization Sort

Checking the **Optimization Sort** box allows Centrus to sort input data into an order optimized to increase processing speed. This option is only available if a ZIP Code input field is present.

Assigning Centrus*COA* Output Fields

The *Assign Outputs* section of the Address Coding dialog is where you associate all address data elements with output field names. By default, the list of Field Names is the same as the input fields in the *Define Input Fields* section of the dialog. You can assign address data elements to existing field names, or create new fields to receive the data.

Assigning Field Names

To associate an address data element with an output field:

1. Select a field name by clicking it.
2. Select the desired demographic data element by clicking it.
3. Click the **<<Assign** button.

The selected address element will appear in the Output Assignment column next to the field name to which it is assigned. An "A:" appears before the address element, signifying that the data is being assigned within the Address Coding module

Creating New Fields

To create a new field:

1. Select the desired address data element by clicking it.
2. Click the **<<New** button. A New Field dialog will appear.
3. Specify the name, type, width, and (if numeric) decimal places desired, or click **OK** to accept the default values.

The selected address element will appear in the Output Assignment column next to the field name to which it is assigned. An "(N)" appears after the field name, signifying that the field is new. An "A:" appears before the address element, signifying that the data is being assigned within the Address Coding module. Finally, default field names have a "N_" prefix if they contain a new or forwarded address, and an "O_" prefix if they contain an old or unforwarded address.

Unassign

If the currently selected field is an input field, clicking the **Unassign>>** button will remove its output assignment. If the currently selected field is a new field, clicking the **Unassign>>** button will delete it.

Blank if Unmatched

If you check the **Blank if Unmatched** box, *all* output fields defined within the Address Coding and Centrus*COA* modules will be cleared if the record cannot be matched to USPS standardization data. If you want to retain unmatched input addresses, either assign address elements to new fields rather than input fields, or be sure the **Blank if Unmatched** box is not checked.

Blank if Unforwarded

If you check the **Blank if Unforwarded** box, *all* output fields defined within the Address Coding and Centrus*COA* modules will be cleared if the record cannot be matched by *FASTforward*. If you want to retain unforwarded input addresses, either assign address elements to new fields rather than input fields, or be sure the **Blank if Unforwarded** box is not checked.

Standardization Defaults

Centrus*COA* can automatically assign the most commonly used address standardization data elements to their corresponding field names, or create new fields for these data elements. From the main Centrus menu, select **Edit**, then **Standardization Defaults**. Select **Existing Fields** to have Centrus try to assign the standardization defaults to your existing fields. Select **New Fields** to have Centrus create new fields for any standardization defaults you have not yet assigned. The standardization default data elements are:

Firm Name
Address Line
Last Line
Delivery Point Barcode
Check Digit
Carrier Route
Urbanization (Puerto Rico)
Match Code

Geocode Defaults

Centrus*COA* can automatically assign the most commonly used geocode data elements to their corresponding field names, or create new fields for these data elements. From the main Centrus menu, select **Edit**, then **Geocode Defaults**. Select **Existing Fields** to have Centrus try to assign the standardization defaults to your existing fields. Select **New Fields** to have Centrus create new fields for any geocode defaults you have not yet assigned. The geocode default data elements are:

Latitude
Longitude
Match Code
Location Code
Census Block Group (12 Digits)

Available Centrus*COA* Elements

This section details all information about the address data available within the Centrus*COA* module. All data elements from the Address Coding module are available, along with elements specific to Centrus*COA*. (Centrus*COA* elements are shown in **boldface**.) Each data element is listed below, and the maximum length of the information returned is given in parentheses. For example, `Firm Name(40)` indicates "Firm Name" data, with a maximum length of 40 characters. If the assigned field has less than 40 characters, the Firm information may be truncated.

Address Element (size)	Explanation
Firm Name (40)	Returns the firm name, as known by the US Postal Service, or as entered. Will be blank if the USPS does not know what firm is at that location.
Address Line (60)	Returns the full address line, e.g. "`1920 MAIN ST W APT 12`".
Last Line (60)	Returns the full last line, e.g. "`BOULDER CO 80301-1234`".
City Name (28)	Returns the valid USPS city name (e.g. `BOULDER`).
State Abbreviation (2)	Returns the 2-letter state abbreviation (e.g. `CO`).

Address Element (size)	Explanation
ZIP Code (5)	Returns the ZIP Code (e.g. 80301).[1]
ZIP+4 Extension (4)	Returns the +4 code (e.g. 1234).[1]
ZIP9 (9)	Returns the complete ZIP+4 (e.g. 803011234).
ZIP10 (10)	Returns the complete ZIP+4 with hyphen (e.g. 80301-1234).
Carrier Route (4)	Returns Carrier Route ID number.
Delivery Point Barcode (2)	This two digit field, when appended to the end of the 9-digit ZIP+4 Code, creates the Delivery Point Bar Code, which is then printed in the address section on the mailing piece to assist with automated sorting.[1]
Check Digit (1)	Used with the DPBC to insure that the bar code printed on the mailing piece is correct.[1]
Urbanization (30)	Returns the urbanization code for the address, used for Puerto Rican addresses only.
Longitude (11)	Returns the longitude coordinate in decimal degrees to 6 decimal places, e.g. 123.234234. The number will be positive or negative depending on the setting of the Negate Longitudes check box. In the Options dialog.
Latitude (11)	Returns the latitude coordinate in decimal degrees to 6 decimal places, e.g. 123.234234.
Match Code (4)	Details which components of an address were modified if a match was successful. If a match was not successful, explains why the match could not be made. See "Match Codes" on page 101 for details.
Location Code (4)	Reports the locational accuracy of the match. See "Location Codes" on page 103 for details.
House Number (11)	Returns the house number in the address (e.g. 123).
Primary Pre-Directional (2)	Returns the pre-directional (e.g. NW).
Primary Street Name (40)	Returns the street name (e.g. MAIN).
Primary Street Suffix (4)	Returns the street suffix, or type (e.g. ST).
Primary Post-Directional (2)	Returns the post-directional (e.g. E).
Second Pre-Directional (2)	Returns the second pre-directional (e.g. N).

[1] The postal bar code printed on a mailing label represents the full nine-digit ZIP Code with the +4 extension, plus the two-digit Delivery Point Barcode, plus the one-digit Check Digit. The resulting 12-digit bar code can be printed using a Postnet bar code font.

Address Element (size)	Explanation
Second Street Name (40)	Returns the second street name (e.g. PEARL).
Second Street Suffix (4)	Returns the second street suffix or type (e.g. ST).
Second Post-Directional (2)	Returns the second post directional (e.g. W).
Unit Number (11)	Returns the unit or apartment number (e.g. 2A).
Unit Designator (4)	Returns the unit designator (e.g. STE).
Intersection Flag (1)	Returns the letter "I" if an intersection match was made, or the letter "F" if a normal address match was made.
Range Record Type (1)	For non-intersection matches, returns a letter denoting the USPS Range type, where "F" = Firm record, "S" = Street or Rural Route record, "H" = Highrise record, "P" = P.O. Box or General Delivery record
Extra/Mail Stop (60)	Returns address information appearing after mail stop designator words: MSC, MS, MAILSTOP, MAIL STOP, ATTN, ATTENTION.
MSA Number (4)	Returns the Metropolitan Statistical Area FIPS number.
MSA Name (30)	Returns the Metropolitan Statistical Area name.
CMSA Number (4)	Returns the Consolidated Metropolitan Statistical Area number.
CMSA Name (30)	Returns the Consolidated Metropolitan Statistical Area name.
County Name (30)	Returns the county name.
State Code (2)	The state code (e.g. 08).
County FIPS Code (5)	The full state and county code (e.g. 08013).
County FIPS Code Only (3)	The county code only (e.g. 013).
Census Tract (11)	The full census tract code (e.g. 08013012205).
Census Tract Only (6)	The census tract code only (e.g. 012205).
Census Block Group (12)	The full block group code (e.g. 080130122052).
Census Block Group Only (1)	The block group code only (e.g. 2).